

Abstract

5 **Method and system for measuring and controlling an OLED display
 element for improved lifetime and light output**

A method of optimizing lifetime of an OLED display element and an OLED display
element with optimized lifetime for possible use in a tiled display, while maintaining
light output are described. It compensates an OLED operating parameter such as
10 supply voltage and/or on-time of the operating current based on at least one
environmental factor which affects aging and on at least one operating factor which is
indicative of aging, e.g. by determining the brightness of an OLED display element.
To optimize the light output, pre-charge of the aged OLED display elements can be
optimized. The knowledge of the working temperature of OLED tiles may be used to
15 regulate the cooling and thus the working temperature, thus improving the lifetime of
the display. Furthermore the intensity and contrast of the display illumination may be
set within predefined limits to reduce the aging.

20 + Fig. 3